

CLAIMS

1. An optical sheet body comprising:

a transparent core sheet having a prescribed thickness;

a plurality of grooves formed in the core sheet;

5 a surface side clad layer formed on a surface of the core sheet; and

a back-surface side clad layer formed on the back surface of the core sheet; wherein

the grooves have a depth that substantially corresponds to a thickness of the core

sheet;

both ends of the grooves are exposed at end faces of the core sheet; and

10 sectional parts of the core sheet that are formed between adjacent grooves serve as optical waveguides.

2. The optical sheet body according to claim 1, comprising at least one light-blocking groove formed in at least one of the sectional parts; wherein

15 the light-blocking grooves have a depth that substantially corresponds to the thickness of the core sheet;

the light-blocking grooves span the length between adjacent grooves; and

the sectional parts on which the light-blocking grooves are formed serve as non-optical waveguides.

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3. The optical sheet body according to claim 2, wherein the grooves and the light-blocking grooves are both V-grooves.

4. The optical sheet body according to claim 3, wherein the grooves are formed in

parallel at prescribed intervals.

5. The optical sheet body according to claim 4, wherein the core sheet has a rectangular shape.

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6. The optical sheet body according to claim 5, comprising:

a surface protection sheet that covers the surface side clad layer; and

a back-surface protection sheet that covers the back-surface side clad layer.

10 7. The optical sheet body according to claim 6, wherein

the surface side clad layer is a surface-side adhesive layer whereby the core sheet and the surface protection sheet are bonded together; and

the back-surface side clad layer is a back-surface-side adhesive layer whereby the core sheet and the back-surface protection sheet are bonded together.

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8. The optical sheet body according to claim 7, wherein

at least one sheet selected from the surface protection sheet and the back-surface protection sheet is a semitransparent sheet; and

the surface-side adhesive layer and the back-surface-side adhesive layer are

20 ultraviolet-curing adhesives.

9. The optical sheet body according to claim 8, wherein the core sheet is a PET sheet.

10. The method for producing an optical sheet body according to claim 9, comprising:

applying the ultraviolet-curing adhesive to the surface of the back-surface protection sheet;

laminating the core sheet that does not yet have the grooves or the light-blocking grooves to the surface of the back-surface protection sheet so that the ultraviolet-curing adhesive is interposed therebetween;

exposing the surface side of the core sheet to ultraviolet rays to cure the ultraviolet-curing adhesive, forming the back-surface-side adhesive layer, and laminating and bonding the back-surface protection sheet to the back-surface side of the core sheet by means of the back-surface-side adhesive layer;

10 forming the V-grooves and the light-blocking grooves in the core sheet from the front surface side of the core sheet;

applying the ultraviolet-curing adhesive to the surface of the core sheet;

laminating the surface protection sheet to the surface of the core sheet so that the ultraviolet-curing adhesive is interposed therebetween; and

15 exposing the surface side of the surface protection sheet to ultraviolet rays to cure the ultraviolet-curing adhesive, forming the surface-side adhesive layer, and laminating and bonding the surface protection sheet to the surface side of the core sheet by means of the surface-side adhesive layer.

20 11. The method for producing an optical sheet body according to claim 10, wherein the V-grooves and the light-blocking grooves are formed in the core sheet by using a rotary die or a laser cutter.

12. An optical card which has a rectangular optical sheet body, wherein

the optical sheet body is the optical sheet body according to any of claims 2 through 8; and

both end faces of the optical waveguides and the non-optical waveguides are positioned at longitudinal end faces or transverse end faces of the optical sheet body.

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13. A composite memory card, comprising:

the optical card according to claim 12; and
a magnetic storage unit.

10 14. A composite memory card, comprising:

the optical card according to claim 12; and
an IC memory chip.